



**WASTE-TO-ENERGY**  
IT'S NOT ABOUT WASTE.

#ITSABOUT  
**IDEAS.**



#ITSABOUT

# MORE RESULTS.

Our society makes lots of nice things. The waste that we create, though, is not as nice. We are not able to change that. What we can do is think productively and look at waste as a raw material.

**EVEN THE THINGS THAT CANNOT BE RECYCLED CAN BE MADE RENEWED: AS ENERGY.**

Incineration technology transforms waste systematically into valuable foundations for humanity and the economy.



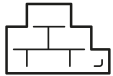
**738,000 T**  
RESIDUAL WASTE



**320 MN KWH<sub>EL</sub>**  
POWER



**435 MN KWH<sub>TH</sub>**  
HEAT



**185,000 T**  
BOTTOM ASH



**3,000 T**  
GYPSUM



**24,000 T**  
FILTER PARTICLES

KEY FIGURES 2023

**USING INCINERATION TO**  
GENERATE RAW MATERIALS AND ENERGY EFFICIENTLY.

#ITSABOUT

# **NEW DEVELOPMENTS.**



## **ENSURING DISPOSAL PERMANENTLY.**

**WHO CAN PREDICT THE FUTURE OF THE COLOGNE  
METROPOLITAN REGION? NOBODY.**

However, we can plan to create a sustainable and liveable economic area. Long-term waste disposal reliability is a key factor in this. We go beyond the statutory requirement of 10 years and ensure permanent reliability with plants that we keep at the cutting edge of technology.



## **PROTECTING SOIL THOROUGHLY.**

**UNTREATED WASTE HAS NOT BEEN ALLOWED TO GO  
STRAIGHT TO LANDFILL SINCE MID-2005. THIS IS THE LAW.**

Therefore our technology transforms non-recycled waste into ashes, which is the simple result of a high-tech method involving incineration processes and efficient after-treatment technologies.



## **PROTECTING THE CLIMATE INTELLIGENTLY.**

**WASTE THAT CANNOT BE PROCESSED INTO NEW  
SUBSTANCES CONTAINS UNUSED ENERGY. INCINERATING  
IT EXTRACTS THAT ENERGY.**

This directly protects the environment because it means fossil fuels can be conserved. Moreover, half of all waste consists of renewable energy compounds. Releasing them has a neutral impact on the climate. The final result is certain, too: clean air.

#ITSABOUT

# **A HEALTHY ENVIRONMENT.**



## **USING ENERGY CONSISTENTLY.**

**ENERGY FROM FOSSIL FUELS HAS AN UNFORTUNATE SIDE EFFECT: GREENHOUSE GASES.**

It is smarter to return the energy within non-recycled waste to a local population using efficient, combined heat and power. Our incineration plant uses waste heat to drive turbines for power generation. The output is amazingly high and creates energy for roughly 250,000 people.



## **DRASTICALLY REDUCING WASTE VOLUMES.**

**WASTE THAT IS DISPOSED OF IS A LOCAL SOURCE OF ENERGY AT THE PRECISE LOCATIONS WHERE PEOPLE LIVE.**

The people of Cologne will be happy to know that incineration reduces waste volumes to just under one quarter of their original weight. The incinerator bottom ash (IBA) that is created is used to build roads and sound barriers. This helps make for a pleasant environment, too.



## **USING ABSOLUTELY EVERYTHING.**

**WASTE INCINERATION IS A SELF-SUFFICIENT PROCESS: THE WASTE WE RECEIVE IGNITES FROM THE WASTE ALREADY BEING INCINERATED.**

Without adding any extra energy, temperatures of up to 1,200°C develop and destroy dioxins and furan directly. Any remaining harmful substances are made harmless through chemical reaction, filtration, and catalysis. This also creates extremely useful things, like pure gypsum for construction.

**AVG KÖLN MBH**

Geestemünder Straße 23

D-50735 Köln

Phone: +49 (0) 221 7170-0

E-mail: [esgehtum@avgkoeln.de](mailto:esgehtum@avgkoeln.de)

**[WWW.AVGKOELN.DE](http://WWW.AVGKOELN.DE)**

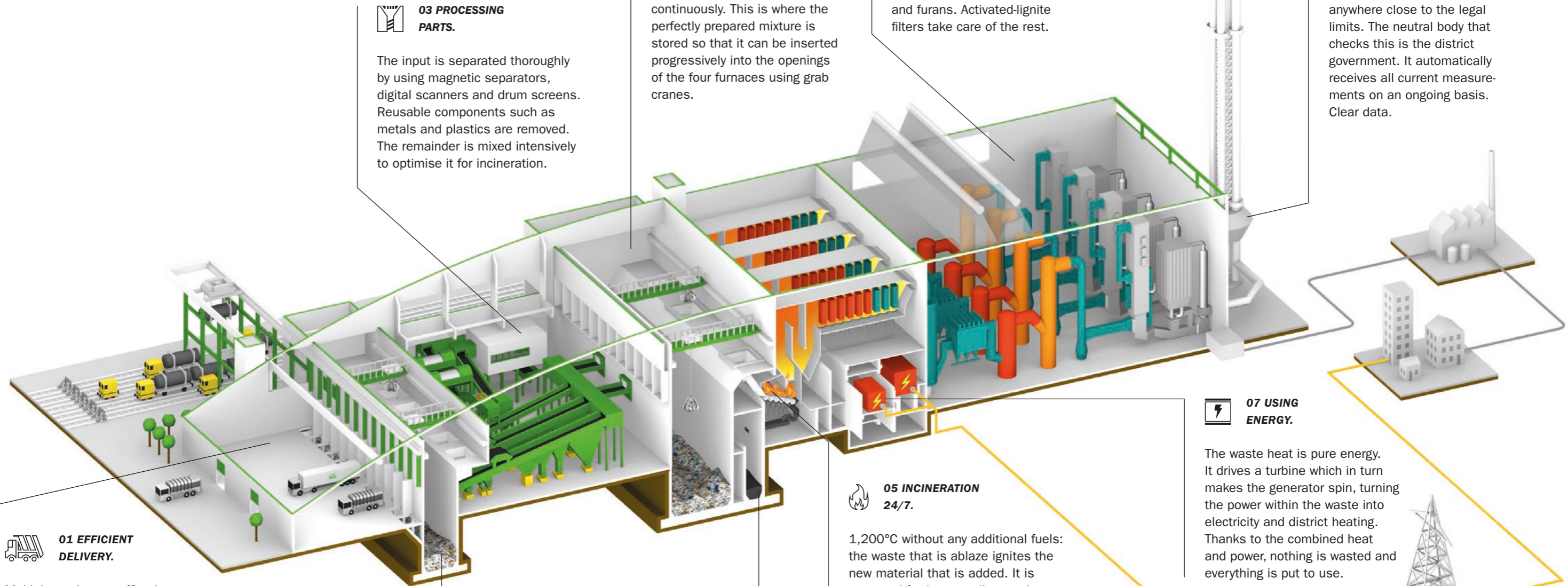


**NATURAL, DOWN TO EARTH AND HONEST:** 'Jupp ech öko' is a genuine Cologne product made sustainably from 100% recycled paper. It has Blue Angel certification.

**#ITSABOUT**

# PRODUCTIVE DISPOSAL.

## REGAINING RESOURCES STEP BY STEP.



### 01 EFFICIENT DELIVERY.

Multiple trucks can offload waste simultaneously at our large delivery hall. One floor up, containers are hoisted from freight trains arriving twice daily to the bunker using a crane. This relieves the pressure on road traffic.

### 03 PROCESSING PARTS.

The input is separated thoroughly by using magnetic separators, digital scanners and drum screens. Reusable components such as metals and plastics are removed. The remainder is mixed intensively to optimise it for incineration.

### 04 CONTINUOUS PROCESSING.

The large capacity of the residual waste storage bunker ensures that it can keep processing continuously. This is where the perfectly prepared mixture is stored so that it can be inserted progressively into the openings of the four furnaces using grab cranes.

### 08 PURIFY EXHAUST GAS.

There are five stages for purifying exhaust gas: the dust filter, the hydrogen chloride absorber, the sulphur dioxide washer, catalytic converter for breakdown nitrogen dioxides and eliminating dioxins and furans. Activated-lignite filters take care of the rest.

### 09 MONITORING EXHAUST GAS.

The emissions do not come anywhere close to the legal limits. The neutral body that checks this is the district government. It automatically receives all current measurements on an ongoing basis. Clear data.

### 05 INCINERATION 24/7.

1,200°C without any additional fuels: the waste that is ablaze ignites the new material that is added. It is conveyed further on rollers and incinerated fully within one hour.

### 07 USING ENERGY.

The waste heat is pure energy. It drives a turbine which in turn makes the generator spin, turning the power within the waste into electricity and district heating. Thanks to the combined heat and power, nothing is wasted and everything is put to use.

### 02 DAY WASTE BUNKER.

Household and bulky waste and post-separation industrial waste are received separated so that they can be prepared for incineration in a targeted way.

### 06 PROCESSING ASHES.

The high-temperature incineration does not leave much behind. Ferrous and non-ferrous metals are removed and reused as raw materials. What remains is ash which, after several weeks maturing in an after-treatment plant, is perfect for building roads.



**SCAN THE QR CODE AND EXPLORE THE DETAILS OF THE PLANT, USING THE AUGMENTED-REALITY APP RENE:)**